

Hybrid Clouds & Mini Pods

**UCISA Cloud Computing Seminar
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Overview

- Welcome to Loughborough
- Commodity and complexity IT
- What are large IT organisations doing?
- Hybrid cloud: de-risking the cloud
- The killer app for HE FE cloud?
- JANET – the ‘national grid’ for our cloud?
- Conclusion: JANET and brokerage

Welcome to Loughborough University


rae2008
Research Assessment Exercise

THE 2006 2007 2008 2009
**BEST STUDENT
EXPERIENCE**
Times Higher Education


One excellent central location **imago**

Burleigh Court 4 star conference centre and hotel	Holywell Park Dedicated conference centre	Loughborough University UK's largest single conference and sports venue	The Link Hotel Modern budget hotel	Burleigh Springs Spa Leisure and therapy centre
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Search



Burleigh Court 4 Star Conference Centre & Hotel



Holywell Park Conference, Training & Exhibition Venue



Loughborough University Conference & Sports facilities



The Official
Preparation
Camp
Headquarters
for Team GB



Dr Herbert Schofield
Principal 1915-50

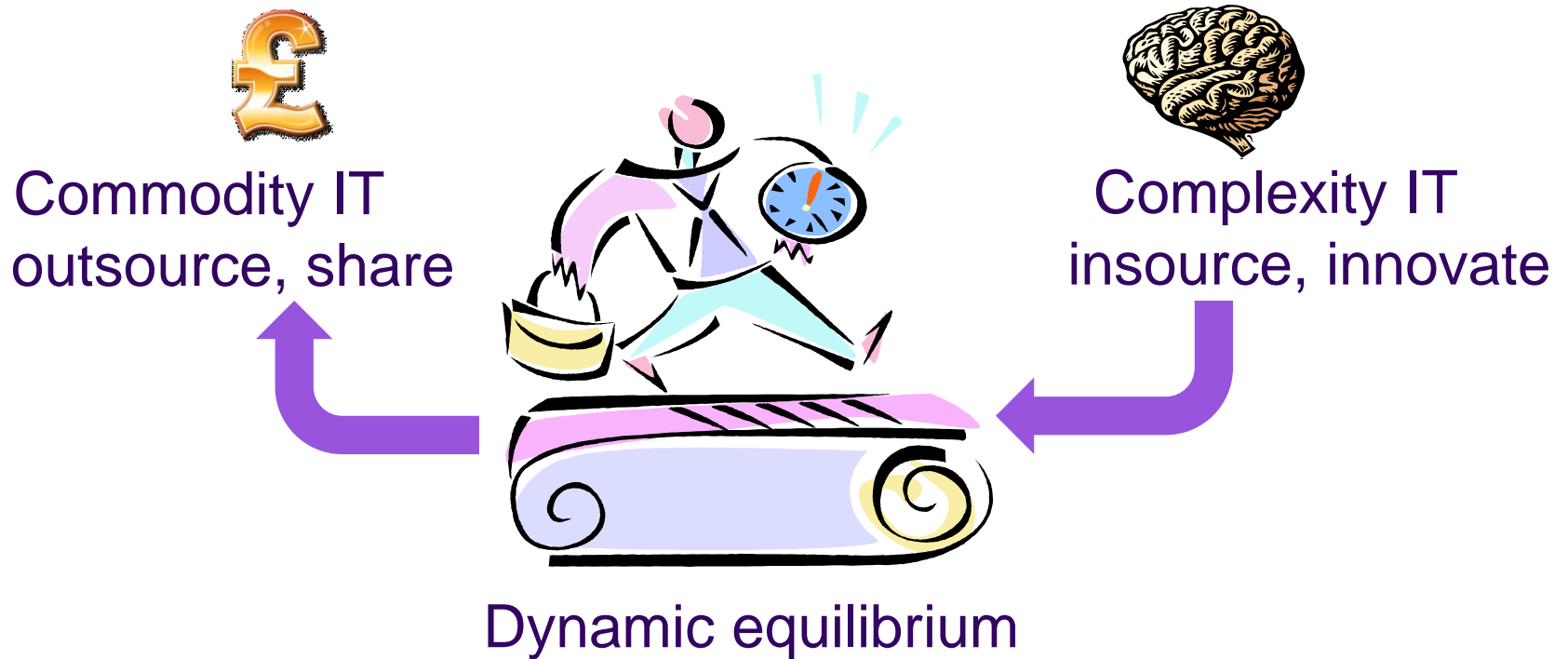


Definition of cloud

“Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.”

(National Institute of Standards and Technology)

Commodity vs complexity IT



HP consolidation project

- Create 'private cloud'
- Data centres: 85 → 6 (3 x pairs)
- Applications 6000 → 3000
- Investment: \$100Ms to create own JANET
- Saving: \$1Bn per annum revenue
- (Source: eweek.com)
- Lesson: industrial scale key to savings?

De-risking the cloud:

Loughborough Hybrid Cloud (Co-operative Cloud)



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**'Traditional'
data centre**



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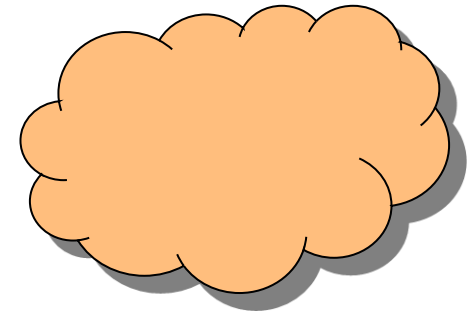


**Local cloud:
2 x mini-pods**



LOGICALIS
Business and technology working as one

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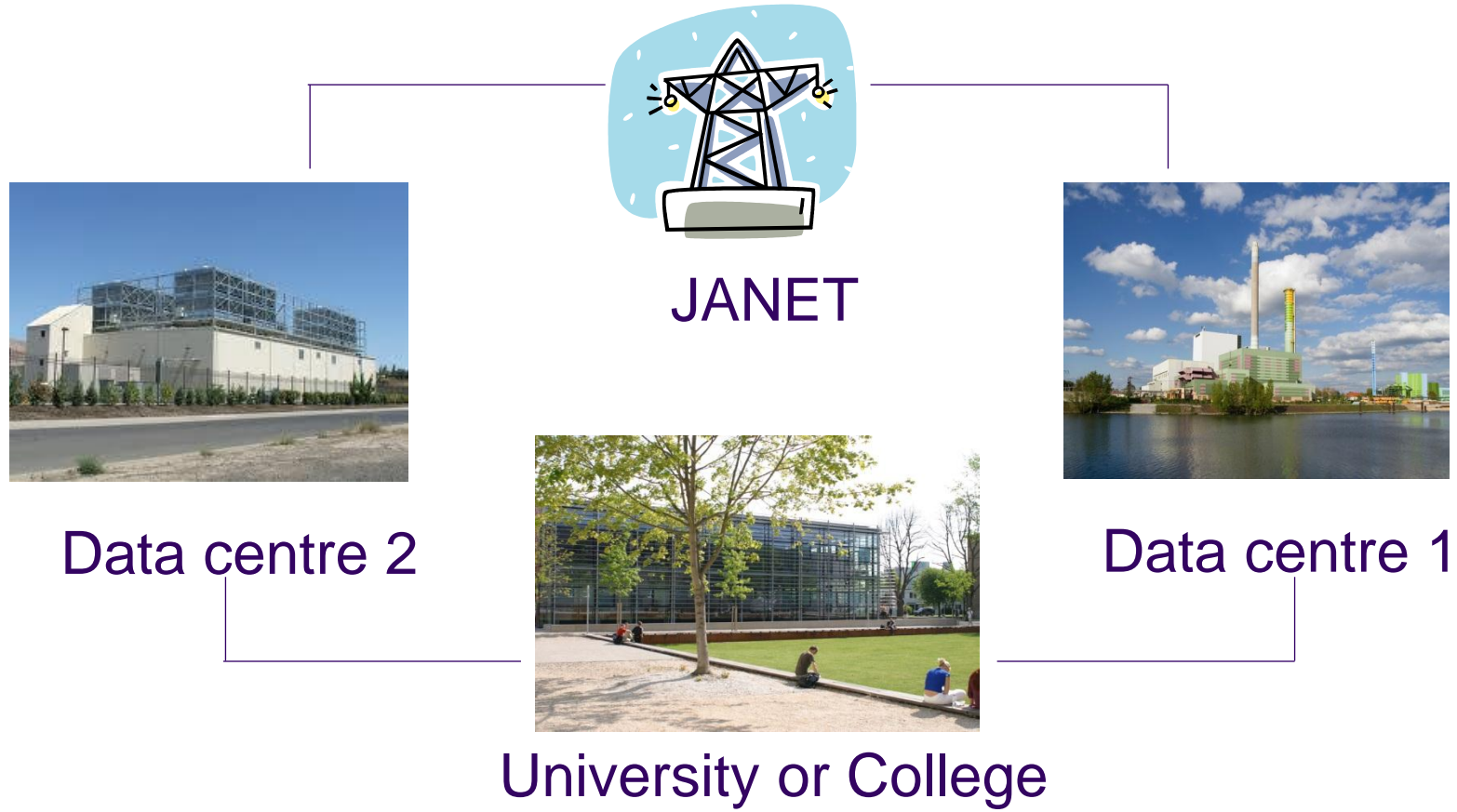


**Remote cloud:
Logicalis
Co-operative
Cloud via JANET**

The 'killer app' for HE FE cloud?

- Research tools?
- Shared admin applications?
- Virtual 'Intel' servers (IaaS) via hybrid cloud
 - Current IT staff retain job and role
 - Cost savings possible if remote cloud 'industrial'
 - Application performance OK if via JANET
 - Exit strategy: risk mitigated by migration back to local cloud

JANET – our ‘national grid’ for hybrid cloud?



Summary:

possible ingredients for cloud success

- **De-risk** via IaaS hybrid cloud
 - Local cloud mini-pods avoid data centre new build cost
 - Easy rollback/exit strategy from remote cloud
- **Incremental change** via IaaS ‘Intel’ virtual servers
 - Staff retain jobs and outlet for skills – no barrier
 - University apps to differentiate and compete as needed
- Cost savings from **industrial scale** remote cloud
- JANET as **national grid** for ‘utility’ IaaS remote cloud
 - JANET is already in place!
 - JANET to act as ‘broker’ for competitive HE FE deals